



Electronic Copy

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • 360-407-6300
Call 711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

May 05, 2021

Tasya Gray, LG
DOF Dalton, Olmsted & Fuglevand
1001 SW Klickitat Way, Suite 200B
Seattle, WA 98134
ngray@dofnw.com

Scott Hooton
Port of Tacoma
PO Box 1837
Tacoma, WA 98401-1837
shooton@portoftacoma.com

Re: Comments on the *Aboveground Site Conditions Memorandum and Existing Groundwater Monitoring Network Evaluation and Recommendations Memorandum.*

- **Site Name:** Taylor Way and Alexander Avenue Fill Area (TWAAFA)
- **Site Address:** 1500 Block Taylor Way E, Tacoma, Pierce County, WA 98409
- **Agreed Order:** DE 14260
- **Enforcement Order:** DE 19410
- **Facility/Site No.** 1403183
- **Cleanup Site ID No.** 4692

Dear Tasya Gray and Scott Hooton:

Thank you for submitting the memorandums (memos)¹ for the Department of Ecology's (Ecology) review. Below are our comments:

Aboveground Site Conditions Memo

1. **Page 2, Hylebos Marsh Property:** Please indicate on Figure 2, the location where the debris were observed eroding from the bank, as shown in Photo 5 of the memo. Please also describe more specifically what the "debris" consist of.
2. **Pages 2-3, Burlington Environmental Property:**
 - a. Ecology agrees with the conclusion that open-air buildings with open sides are likely to have an incomplete pathway for vapor intrusion.

¹ TWAAFA *Aboveground Site Conditions Memorandum*. Prepared by DOF, dated March 5, 2021; and, TWAAFA *Existing Groundwater Monitoring Network Evaluation and Recommendations Memorandum*. Prepared by DOF, dated March 5, 2021.

- b. Lab Pack Building: Post-installation testing or monitoring of the vapor mitigation system has not been performed to confirm effectiveness since the system was installed in 2016. Please prepare for Ecology review and approval a Sampling and Analysis Plan (SAP). The SAP shall include pressure field testing and indoor, sub-slab, and ambient air sampling. Ecology recommends that the initial sampling be performed twice annually on a seasonal basis (spring/summer and then late fall/winter). Stericycle previously stated that a mitigation system Operation & Maintenance (O&M) Plan and SAP would be prepared for Ecology review and approval (Amec Foster Wheeler 2016).² However, these plans were never submitted to Ecology. Please submit the O&M Plan and SAP for Ecology review and approval within 60 days of the date of this letter.
- c. Stabilization Building: The operation of the 20,000 cubic foot per minute (CFM) blower for dust collection during treatment of waste has the potential to cause air pressure to be lower than in the subsurface (EPA 2015).³ This could increase the potential for vapor intrusion and/or methane entry into the building. Therefore, Ecology recommends that you measure and report differential and barometric pressures beneath the slab and inside the buildings, during both active and non-active blower operation, to determine if the pressure beneath the slab can be greater than indoor air. A pressure gradient from sub-slab to indoor air could result in sub-slab soil vapor migrating into the indoor air space through advection. Differential pressures should be measured using a micro-manometer that is auto-zeroing and has a pressure differential sensitivity to 0.001 inches of water. Differential pressures should be recorded using a data logger for at least one week to assess fluctuations (if any) of cross-slab differential pressure. It is expected that the greatest potential for vapor intrusion would be during the heating season (late fall or during the winter months). An alternate option would be to perform a controlled pressure method test (Guo et al. 2020).⁴ Sub-slab concentrations of volatile organic compounds (VOCs), air phase total hydrocarbons (APH) petroleum fractions concentrations, and methane should be measured to determine the source concentration also.
- d. Based on the results of the crawlspace air sampling of the laboratory/office building constructed in 2019 (DOF 2019, 2020),⁵ Ecology agrees with the conclusion that because these buildings are elevated from the ground surface, allowing for passive ventilation, are likely to have an incomplete pathway for vapor intrusion.
- e. Transportation Building: Ecology agrees with the conclusion that the Transportation Building on the Burlington Environmental (BE) property, specifically the offices, could present a potential for vapor intrusion due to building design. Because of the varied

² Revised Soil Vapor Sampling, Stericycle Tacoma Facility, Tacoma, Washington. Prepared by Amec Foster Wheeler, dated July 26, 2016.

³ OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, June 2015.

⁴ Development and Validation of a Controlled Pressure Method Test Protocol for Vapor Intrusion Pathway Assessment. Yuanming Guo, Paul Dahlen, and Paul C. Johnson, Environmental Science & Technology, 2020:54, pp. 7117-7125.

⁵ New Office Building Construction – Crawlspace Air Sampling, Stericycle Tacoma Facility. Prepared by DOF, dated August 19, 2019; and, New Office Building Construction – Air Sampling, Stericycle Tacoma Facility. Prepared by DOF, dated April 10, 2020.

contaminants in the vadose zone fill and the presence of elevated methane concentrations in portions of the Site, groundwater concentrations alone cannot be used to rule out the potential for vapor intrusion. Therefore, it will be necessary to collect sub-slab soil vapor samples beneath the transportation building along with concurrent indoor air samples from the office area and ambient air samples. Ecology also recommends that you measure and report differential and barometric pressures beneath the slab and inside the buildings, to determine if the pressure beneath the slab can be greater than indoor air. Differential pressures should be recorded using a data logger for at least 48 hours (preferably one week) prior to sampling to assess fluctuations (if any) of cross-slab differential pressure. Ecology recommends completing this work during late fall or during the winter months. Or, a controlled pressure method test could be performed.

- f. Parcel A: The risk of vapor intrusion for future buildings needs to be evaluated beneath Parcel A along with other BE property areas that have had the historic presence of light non-aqueous phase liquid (LNAPL) in soil and/or groundwater from releases of petroleum hydrocarbons. Therefore, sampling and analysis of air phase total hydrocarbons (APH) petroleum fractions concentrations in shallow (5 feet depth) soil vapor should be performed as part of the remedial investigation of this area. The 1993 soil vapor study results (DOF 2020, Appendix J), included samples from Parcel A and other areas, but air phase total petroleum hydrocarbons fractions were not analyzed. The 1993 study's reporting limits for volatile organic compounds (VOCs) were significantly elevated above current shallow soil gas screening levels. Also, as noted in Section 3.1 of the Data Gaps Work Plan (DOF 2020),⁶ no recent sampling has been performed to confirm if soils contaminated with VOCs remain in this area. Sampling of one location (TWA-SB5) is included in the field work (DOF 2020).
3. Pages 4-5, Potter Property: The memo does not state what the floor consists of beneath the two Quonset huts and the timber shell structure. This information needs to be supplied in the memo. Ecology does not agree that fact that the vapor intrusion pathway can be assumed to be incomplete based on the condition of the buildings and the observations during the inspection. The area beneath these buildings have historically had the presence of LNAPL in soil and/or groundwater from releases of petroleum hydrocarbons. Therefore, sampling and analysis of APH petroleum fractions concentrations and VOCs in sub-slab (if a slab is present) and/or shallow (5 feet depth) soil vapor should be performed as part of the remedial investigation of this area. Indoor air and differential pressure measurements should also be collected. Indoor air sampling should be performed with the doors shut during testing. The doors shall also remain shut for a period of at least 12 hours prior to indoor air testing.
4. Former CleanCare Property: Some of the areas could not be inspected due to brush growth along the western, northern, and eastern property lines. Since the inspection, Pierce County has performed brush clearing work. Please inspect these areas during your next visit to the Site and provide a report of your findings, including photos.

⁶ Final Data Gaps Work Plan, Taylor Way and Alexander Avenue Fill Area Site, Tacoma, Washington. Prepared by DOF, dated July 2020.

Existing Groundwater Monitoring Network Evaluation and Recommendations Memo

1. Borehole integrity of the wells on the Former CleanCare Property could not be assessed due to the lack of a completed access agreement. This work will need to be completed as soon as the access agreement is finalized. Then, an addendum to the memo will need to be prepared.
2. CTMW-11R: Ecology does not agree with the recommendation to not replace this well. Therefore, this well shall be replaced as originally planned. The location of this well is necessary for tank farm groundwater monitoring.
3. Recommendations, page 3, first four bulleted items: Ecology agrees with the recommendations for repair of surface monuments/gaskets/gaps/locks. Please add that well CTMW-11R will be installed at the same time as CTMW-23R.
4. Recommendations, page 3, bulleted items four through eight: Ecology agrees with the inspection recommendations for the Former CleanCare property wells. We also agree that sampling and evaluation of wells CCW-1A and -1C can be performed before a decision is made whether to reinstall well CCW-1B and that well MW-1 on the Potter property still needs to be accessed and evaluated.

The soil vapor sampling and analysis plans for the Stabilization Building, Transportation Building, Parcel A, and the Potter Property (Aboveground Site Conditions Memo above comments 2c, 2e, 2f, and 3) may be included in the Soil Vapor Intrusion Status and Recommendations memorandum⁷. The submittal of the SAP and O&M plan for the Lab Pack Building shall be separate deliverables, to be submitted 60 days from the date of this letter.

If you have any questions, please contact me at (360) 407-6247 or steve.teel@ecy.wa.gov.

Sincerely,



Steve Teel, LHG
Cleanup Project Manager/Hydrogeologist
Toxics Cleanup Program
Southwest Regional Office

cc by email: Clint Babcock, Glenn Springs Holdings Clint_Babcock@oxy.com
Robert F. Bakemeier, Bakemeier, P.C. rfb@rflaw.com
Laura Dell'Olio, CleanEarth, ldellolio@harsco.com
Brenda Meehan, Schnitzer Steel bmeehan@schm.com
Mark M. Myers, Williams Kastner MMyers@williamskastner.com
Marlys S. Palumbo, VanNess Feldman LLP msp@vnf.com

⁷ According to the schedule in the Agreed Order and Enforcement Order, this memorandum is due to be submitted within 60 days of the initial reporting tasks field inspection. Ecology acknowledges that the work of the initial reporting tasks field inspection has not been able to be completed yet due to access limitations on the Former CleanCare Property and Potter Property. It is Ecology's expectation that this field inspection task will be completed as soon as possible (and after access agreement completion).

Kim Seely, Coastline Law Group PLLC kseely@coastlinelaw.com
Rick Tackett, Pierce County rick.tackett@piercecountywa.gov
Gabrielle Gurian, Office of the Attorney General, gabrielle.gurian@atg.wa.gov
Rebecca S. Lawson, Ecology, rebecca.lawson@ecy.wa.gov
Nick Acklam, Ecology, Nicholas.acklam@ecy.wa.gov
Kaia Petersen, Ecology, kaia.petersen@ecy.wa.gov
Ecology Site File